

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/US05/006871

International filing date: 04 March 2005 (04.03.2005)

Document type: Certified copy of priority document

Document details: Country/Office: US
Number: 60/550,654
Filing date: 05 March 2004 (05.03.2004)

Date of receipt at the International Bureau: 07 April 2005 (07.04.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



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APPLICATION NUMBER: 60/550,654

FILING DATE: *March 05, 2004*

RELATED PCT APPLICATION NUMBER: *PCT/US05/06871*



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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No. ER 515200700 US

INVENTOR(S)					
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Additional inventors are being named on the <u>1</u> separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
RECORDING MEDIUM STORAGE PACKAGE HAVING IMPROVED ROSETTE					
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<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76					
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[Page 1 of 2]

Respectfully submitted,

SIGNATURE

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Date 03-04-04

REGISTRATION NO. 24,312

(if appropriate)

Docket Number: 027721-8

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Docket Number 027721-8

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[Page 2 of 2]

Number 2 of 2

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RECORDING MEDIUM STORAGE PACKAGE
HAVING IMPROVED ROSETTE

The present invention relates generally to enclosures for receiving and storing digitally encoded discs and, more particularly, to an improved disc retaining means for holding such discs within such enclosures.

Various types of planar discs are in use at the present time to record and store information which is to be retrieved by various means, such as by optical or magnetic means. Typical of such discs are compact discs and DVD discs (hereinafter referred to generically as CDs) on which information is digitally recorded by use of a laser beam and then read optically by a laser beam. Such discs are used to record audio information, such as musical renditions, video information such as visual images and digital information for use as read only and other memories for use in various applications, such as computer applications. In most instances, at the present time, such discs are sold with information already recorded thereon. In other applications, such discs are sold in blank form and are used by the customer to record information thereon. In the latter case, for example, optical discs are sold for use as computer storage media and are used in hard disc storage systems. In either case, optical imperfections in or on the surfaces of such discs interfere with both the recording and retrieval of information stored on the discs. Care must, therefore, be taken in the storage, moving and handling of such discs to avoid causing any such imperfections. As used herein, the term compact disc or CD is intended to encompass all such discs, whatever their size, for all known or proposed uses.

Compact discs containing laser recorded information are typically packaged in enclosures designed to hold one or more CDs for protecting the discs during storage and shipment. Enclosures commonly used at the present time comprise a three piece assembly consisting of a base or bottom element, an insert in the base/bottom element for positioning and supporting the disc in the base/bottom element, e.g., by a center projection (commonly referred to as a "rosette") which engages the periphery of the aperture in the center of the disc, and a lid or cover which is hinged to the base/bottom element and is closed thereon after the disc is mounted therein on the tray. Other enclosures utilize only two pieces, omit the insert, and position and support the disc via the center projection directly on the base/bottom element. The enclosure is, typically, at least partially transparent and graphics relating to the disc and containing trademark and sales promotional information are usually inserted in such a manner as to be visible through the enclosure. In another form of CD packaging, a tray having a rosette projecting from the base thereof for receiving and supporting the CD is attached to a paperboard component which folds over the tray to enclose the CD.

It has become conventional for at least the CD receiving and supporting element of the CD enclosures to be formed by injection molding. As a consequence the rosettes are formed of the same plastic material as the base or tray with which they are integrally molded. The base and/or tray elements and, therefore, the rosettes have historically been made from pigmented thermoplastic molding resins having sufficient impact resistance to

withstand the forces attendant to mounting and unmounting CDs as well as the forces experienced during shipping and handling. More recently, it has become desirable to form the enclosure out of a more transparent plastic material, such as crystalline polystyrene. Although such a material makes the enclosure more attractive and the graphics and promotional materials more legible, it is more brittle and easily shattered than previously used thermoplastics and has, in large part, diminished the protection afforded the disk by the enclosure and its mounting rosette.

Therefore, it has become desirable to improve certain aspects of the heretofore conventional CD enclosures, for example, by improving their impact resistance to avoid damage during shipping or if dropped. For these same reasons, it has become desirable to better retain the disc on the rosette in the package. In addition, in order to reduce shipping costs and to conserve retail space, it is desirable to design and manufacture thinner overall packages, particularly for multiple disc packages.

However, efforts to date at solving these problems suffer from one or more shortcomings which make the resulting package unsatisfactory or the rosette not particularly desirable for use in a CD enclosure. This is because prior art CD packaging, particularly the rosettes, are either of complex construction and, therefore, uneconomical to manufacture or unacceptably fragile and unreliable in use, which presents substantial risk of damaging the information bearing surface of the disc. Accordingly, there remains a need for a simple, inexpensive to manufacture and easy to use rosette for a CD package which is configured to facilitate safe mounting and unmounting of the disc thereon and which does not present a damage risk for the disc's information bearing surface.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 comprises plan, bottom, side elevation and sectional views of one embodiment of a single disc package of the present invention.

FIGURE 2 comprises plan, bottom, side elevation and sectional views of one embodiment of a double disc package of the present invention.

FIGURE 3 is a perspective view of one embodiment of a single disc package of the present invention.

FIGURE 4 is a perspective view of one embodiment of a double disc package of the present invention.

FIGURE 5a is a plan view of the base hub and rosette of one embodiment of a single disc package of the present invention.

FIGURE 5b is a plan view of the cover hub and rib features of one embodiment of a single disc package of the present invention.

FIGURE 6a is a plan view of the base hub and rosette of one embodiment of a double disc package of the present invention.

FIGURE 6b is a plan view of the cover hub and rib features of one embodiment of a double disc package of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention, in the embodiment disclosed in Figures 1, 3 5a and 5b, comprises a very thin, clamshell type package 10 for a single media disc, such as a CD or DVD disc (not shown), comprising a base 12 and a cover 14 separated by a spine panel 16 having living hinges 18, 20 between the spine panel 16 and each of the base 12 and cover 14 to allow the base 12 and cover 14 to pivot between open and closed positions. An upstanding circular rim 22 rises from the base having a dimension slightly larger than the diameter of the disc to protect the peripheral edge of the disc when it is mounted on the rosette 24 which rises from a raised hub 25 positioned at the center of the upstanding circular rim 22. At diametrically opposed "corners" of the rim 22, there are depressed finger wells 26 to provide finger access to the rim of the disc mounted on the rosette 24. Upstanding rims 28, 30 rise from the base and cover panels, respectively, on all peripheral edges thereof other than the spine edges. Desirably, the cross-sectional profile of at least portions of the base rim 28 present a C-shaped female receptacle 32 for receiving the cross sectional male profile 34 of the cover rim 30. The male and female receptacle/profile 32, 34 engage each other with a snap fit when the package 10 is closed. Alternatively, other well known means for engaging the base 12 and cover 14 when the package 10 is closed can be utilized.

One aspect of the invention resides in the rosette 24 which rises from the base 12 and comprises three upright spaced-apart arcuate members 36, 38, 40 that are received within the central aperture of the disc and have radially extending protrusions 42 along the upper edge thereof that retain the disc on the rosette 24. Opposite the rosette 24, on the inside of the cover 14, are three mating rib features 44, 46, 48 which protrude from a raised hub 49 mounted on the cover 14 into the inside 50 of the rosette 24 and engage the three upright arcuate members 36, 38, 40. The dimensioning is such that the radial outermost edge 44a, 46a, 48a of each of the ribs contacts the inside radial surface 36a, 38a, 40a of the corresponding arcuate upright member and biases the upright members radially outwardly to better retain the disc in place. The ribs contacting the upright arcuate members are a locking feature to securely hold the disc in place on the rosette and, also, add strength to the rosette, which protects the rosette against breakage during shipping and when dropped.

In a second embodiment, for a two disc package 100, illustrated in Figures 2, 4, 6a and 6b, the structure is fundamentally the same as for the single disk package. Therefore, like elements are denoted by like reference numerals. A major difference is that there is a rosette 102 on the base 12 which comprises three upright arcuate members 106, 108, 110 and three ribs 118, 120, 122 disposed within the generally circular area defined between

the arcuate members 106, 108, 110. There is also a rosette 104 on the cover 14 which comprises three arcuate members 112, 114, 116 and three ribs 124, 126, 128 disposed within the generally circular area defined between the arcuate members 112, 114, 116. It is noteworthy that the three upright arcuate members and the three ribs are positioned in substantially the same orientation on each of the cover 12 and the base 14 and are so positioned that, as the package is closed by pivoting one of the cover 12 and base 14 about the living hinges 18, 20, the three upright arcuate members on the base and cover, respectively, come into registry with and fit within the spaces (valleys) 130, 132 between the arcuate members on the cover 12 and base 14, respectively. At the same time, the ribs on the base 12 and cover 14 enter into the opposite rosette 104, 102, respectively, in such a manner that the ribs on the cover 12 and base 14 do not contact each other. This interfitting of the arcuate members and the ribs has the advantage that a thinner overall package 100 can be designed because the rosette height does not adversely impact the overall package height. Moreover, as with the single disc package, the interlocking feature adds additional strength to the rosettes for increased shipping toughness and resistance to impact.

With reference to Figures 6a and 6b, the dimensioning is such that, when package 100 is closed, the radial outermost edge 118a, 120a, 122a of each of the base ribs 118, 120, 122 contacts the inside radial surfaces 112a, 114a, 116a of the corresponding cover arcuate upright members 112, 114, 116 and biases the cover upright members 112, 114, 116 radially outwardly to better retain a disc in place on the cover 14. Likewise, the radial outermost edge 124a, 126a, 128a of each of the cover ribs 124, 126, 128 contacts the inside radial surfaces 106a, 108a, 110a of the corresponding base arcuate upright members 106, 108, 110 and biases the base upright members 106, 108, 110 radially outwardly to better retain a disc in place on the base 12. The ribs contacting the arcuate upright members are a locking feature to securely hold the disc in place on the rosette and, also, add strength to the rosette, which protects the rosette against breakage during shipping and when dropped.

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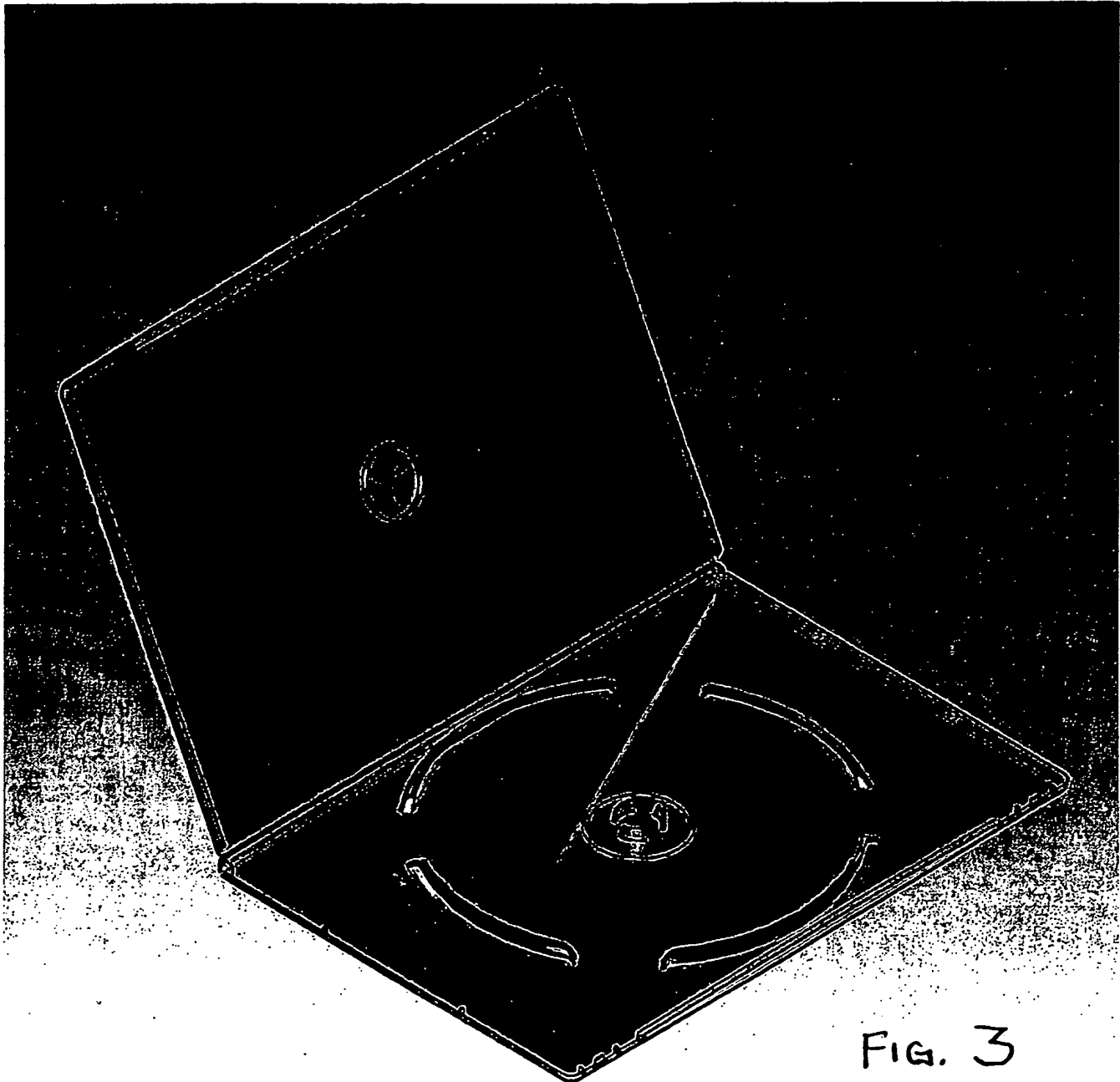


FIG. 3

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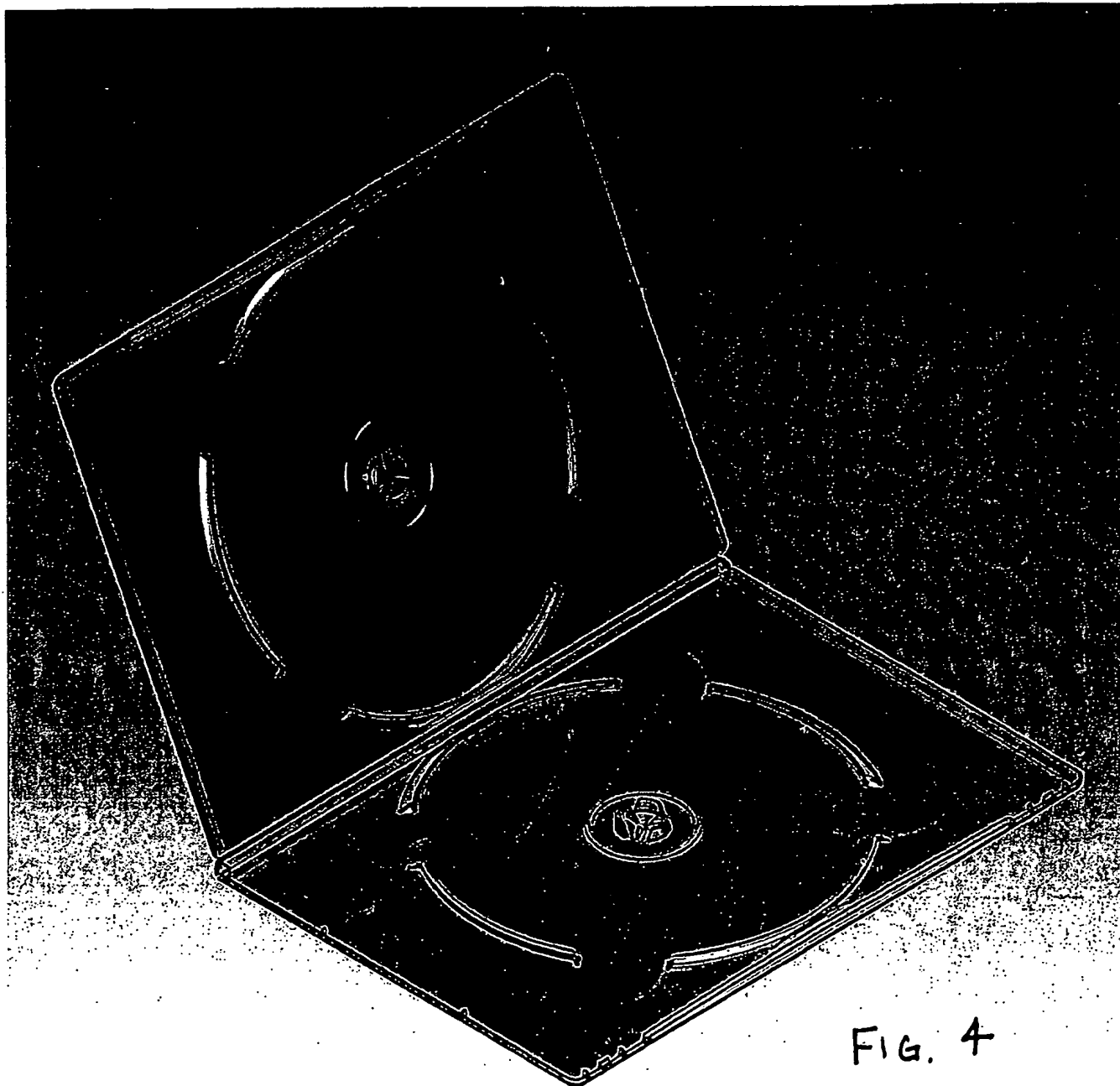


FIG. 4

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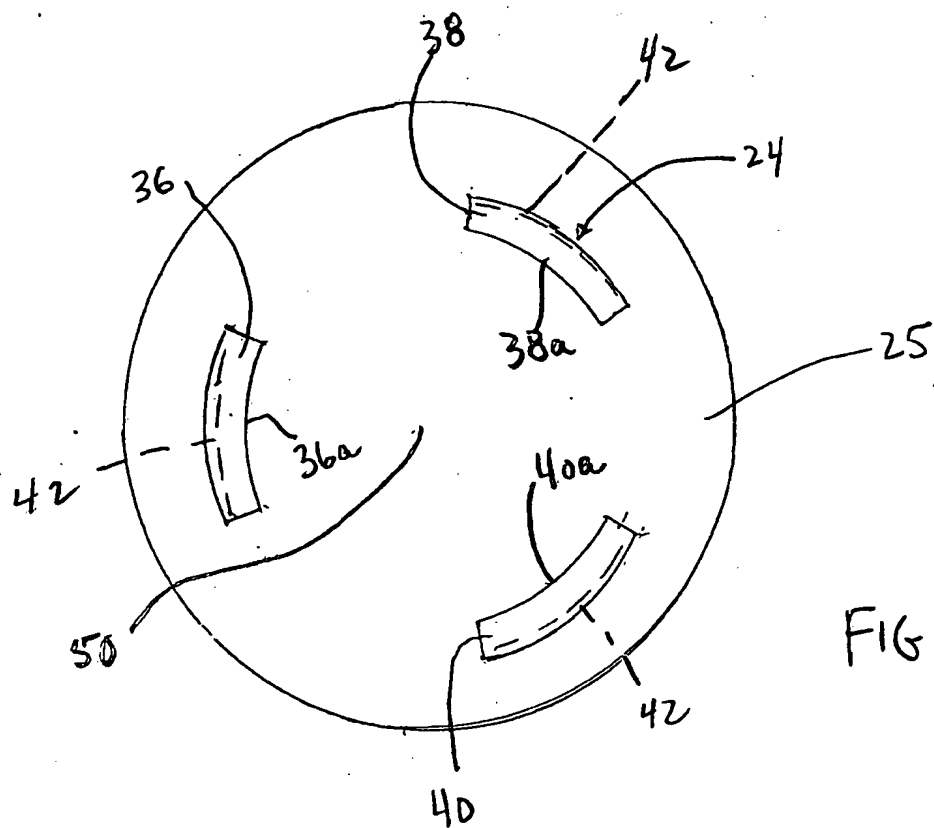


FIG. 5a

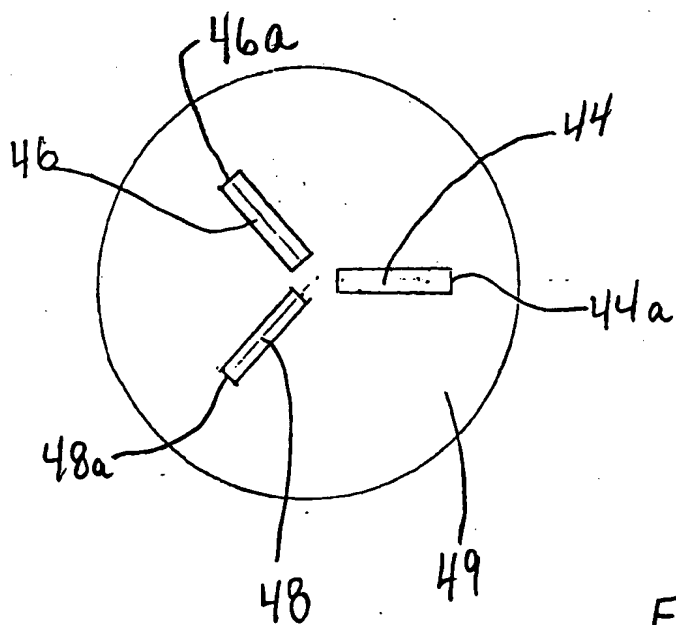


FIG. 5b

